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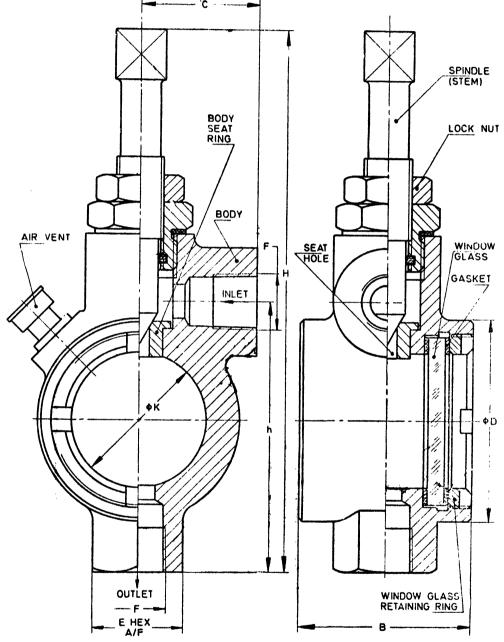




Indian Standard FIRMED 2003

SPECIFICATION FOR REGULATING TYPE LIQUID FLOW INDICATORS

- 1. Scope Covers the requirements of regulating type liquid flow indicators having taper pipe threads and toughened glass windows on both sides for use in industrial plants.
- 1.1 These are installed in pipe lines to indicate and regulate the flow of liquid.
- 2. Dimensions



All dimensions in millimetres.

Nominal Bore Size	Taper* Threads	н	В	С	D	E	F	h	К	Seat Hole
10 15 20 25	3/8" 1/2" 3/4" 1"	160 160 170 170	52 52 52 52 52	35 35 40 40	60 60 60	32 32 48 48	3/8" 1/2" 3/4" 1"	80 80 85 8 5	40 40 40 40	6 7 8 8

*Conforming to IS: 554-1985 'Dimensions for pipe threads where pressure tight joints are required on the threads (third revision)'.

Adopted 4 March 1986

O December 1986, ISI

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3. Material

3.1 The different components of regulating type liquid flow indicator shall be made of the materials as given in Table 1.

TABLE 1 MATERIALS FOR COMPONENTS OF REGULATING TYPE LIQUID FLOW INDICATORS

SI No.			Indian Standard		
i)	Body	a) Brass	IS: 292-1983 Specification for leaded brass ingots and castings (second revision)		
		b) Leaded-tin-bronze	Grade 2 of IS: 318-1981 Specification for leaded tin bronze ingots and castings (second revision)		
		c) Cast iron	Grade FG 200 of IS: 210-1978 Specification for grey iron castings (third revision)		
ii)	Window glass	Toughened glass	IS: 2553-1971 Specification for safety glass (second revision)		
iii)	Stem (spindle)	a) High tensile brass	Alloy 1 or 2 of IS: 320-1980 Specification for high tensile brass rods and sections (other than forging stock) (second revision)		
		b) Mild steel	IS: 226-1975 Specification for structural steel (standard quality) (fifth revision)		
iv)	Body seat ring	a) Brass	Type I of IS: 319-1974 Specification for free- cutting brass bars, rods and sections (third revision)		
		b) Mild steel	IS : 226-1975		
v)	Gasket*	a) Compressed asbestos fibre	IS: 2712-1979 Specification for compressed asbestos fibre jointings (second revision)		
		b) Rubber	IS: 638-1979 Specification for sheet rubber jointing and rubber insertion jointing (second revision)		

^{*}Depending upon the type of liquid handled.

4. Designation — The regulating type liquid flow indicators as R and having nominal bore size 10 mm shall be designated as:

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- 5. Workmanship Regulating type liquid flow indicators shall be finished smooth and shall be free from burrs cracks and other manufacturing defects.
- 5.1 Outer surface of cast iron bodies shall be painted with a suitable oil resistant and anti-corrosion paint.
- 6. Sampling Unless otherwise agreed to between the purchaser and the supplier, the sampling plan as given in Appendix A shall be followed.
- 7. Tests Unless otherwise agreed to between the purchaser and the supplier, every regulating type liquid flow indicator, complete with its components shall be tested under an internal hydraulic pressure of 1½ time the maximum working pressure at least for two minutes during which it shall neither leak nor sweat.
- 8. Marking The regulating liquid flow indicator shall be legibly and indelibly marked with the manufacturer's name or trade-mark. The nominal size shall also be marked on either side for easy identification.
- 8.1 ISI Certification Marking Details available with the Indian Standards Institution.
- 9. Packing Each regulating type liquid flow indicator shall be properly wrapped with newsprints aircraft paper and each piece then shall be squarely packed in strong card board boxes in accordance with the best prevalent trade practices. If required, a straw cushioning may be provided on all sides between the box walls and regulating type liquid flow indicators.

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(Page 3, Appendix A, Table 2) — Delete the matter of col 4 and 5.

(Page 3, Appendix A) — Insert the following new clause after Table 2.

'A-1.3 All indicators samples selected shall be subjected to checks for dimensional requirements, workmanship and hydraulic pressure test. A flow indicator failing in any of these tests shall be termed as defective. The lot shall be considered as conforming to the requirements of this standard if the number of defectives found in the sample is less than or equal to corresponding permissible number of defectives given in col 3 of Table 2, otherwise not.'

(EDC 63)

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APPENDIX A

(Clause 6)

SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY

A-1. Scale of Sampling

A-1.1 Lot — In any consignment all the regulating type liquid flow indicators of the same size and the type and manufactured under essentially similar conditions shall constitute a lot.

A-1.2 For ascertaining the conformity of the lot to the requirements of this specification tests shall be carried out for each lot separately. The number of regulating type liquid flow indicators to be selected at random from each lot shall be in accordance with col 1 and 2 of Table 2. To ensure the randomness of selection, IS: 4905-1968 'Method for random sampling' shall be followed.

TABLE 2 SAMPLE SIZE AND PERMISSIBLE NUMBER OF DEFECTIVES

Lot Size	Sample Size	Permissible Number of Defectives	Sub-Sample Size	Permissible Number of Defectives	
(1)	(2)	(3)	(4)	(5)	
Up to 100 101 to 150 151 to 300 301 to 500 501 to 1 000	8 13 20 32 50	0 0 0 1 2	3 5 8 13 20	0 0 0 0	

EXPLANATORY NOTE

This standard covers the requirements of wrench operated regulating type liquid flow indicators and is based on the manufacturing practices followed in the country.